

System and Method for Delay Equalization of Multiple Transmission Paths**ABSTRACT OF THE DISCLOSURE**

The present invention provides systems and methods for addressing the effects of non-linear phase response, such as by equalizing electrical delays among transmission paths. A preferred embodiment provides phase detection circuitry and phase adjustment circuitry in the signal paths of a multiple beam or phased array antenna to provide delay equalization of the signal paths. Communication systems implementing the systems and methods of the present invention are provided broadband phase calibration and, therefore, are enabled to provide controlled and predictable beam forming over a broad range of frequencies.

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